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TEN-YEAR PROFILE OF INFECTIOUS AND PARASITIC DISEASE HOSPITALIZATIONS

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Ten-year Profile of Infectious and Parasitic Disease Hospitalizations in the U.S. Navy

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SUMMARY

Problem

Infectious and parasitic diseases are responsible for a significant percentage of hospital admissions among Navy and Marine Corps personnel and pose a threat to military readiness in different operational environments.

Objective

The object of this study was to develop a profile of infectious disease hospitalizations over a ten year period extending from 1975 through 1984 to identify trends in rates of specific diagnoses that would serve as a baseline for the projection of future hospital admissions for these conditions.

Approach

First hospital admissions for all ICD9-CM diagnoses of infectious and parasitic diseases in U.S. Navy enlist personnel occurring during 1 January 1975 to 31 December 1984 were identified from a computerized Medical History File edited and maintained at the Naval Health Research Center. Using average annual population estimates for all active duty enlisted personnel, crude, age-specific and age-adjusted rates of first admissions were calculated for the study population. Variables analyzed included diagnosis, age, sex, occupation, and year hospitalized.

Results

The age-adjusted rate of total first hospital admissions for all infectious and parasitic diseases declined significantly from a high of 112.9 per 10,000 person years in 1977 to a low of 50.3 per 10,000 person years in 1982. Approximately 78 per cent of all first hospital admissions were accounted for by 10 specific diagnoses: viral hepatitis, other diseases due to viruses and chlamydiae, ill-defined intestinal infections, infectious mononucleosis, rubella, chickenpox, measles, intestinal infections due to other organisms,

other venereal diseases, and streptococcal sore throat and scarlet fever. Eight diagnoses exhibited significantly higher rates in 1980-1984 than in the previous five-year period: chickenpox, enteritis due to a specific organism, early and symptomatic syphilis, other diseases of conjunctiva due to viruses and chlamydiae, candidiasis, trichomonaisis, herpes zoster, and meningitis due to enteroviruses. The rate of total first admissions for infectious and parasitic diseases was inversely associated with age. Personnel between the ages of 17 and 19 were particularly susceptible to diseases normally associated with childhood, including measles, mumps, and chickenpox. Women had significantly higher age-adjusted rates of total first hospitalizations for infectious diseases than men and medical personnel and recruit personnel had significantly higher rates than other occupational groups.

Conclusions

Changes in rates of hospitalization appear to be due to a number of factors, including improved medical care and prophylaxis, changes in treatment policy with a greater emphasis on outpatient care, changes in social and demographic characteristics of the Navy as a whole, and changes in ship deployment.

Recommendations

The decline in rates of hospital admission for infectious and parasitic diseases suggests that resources devoted to treating these conditions may be better utilized in other settings such as outpatient clinics. Prophylaxis is essential in reducing rates for some conditions such as streptococcal infections, measles, and rubella, and is indicated for other conditions such as chickenpox. Finally, a better understanding of specific diagnoses and the risk factors associated with each diagnosis is required for the projection of rates of infectious and parasitic diseases likely to occur under various operational scenarios.

Historically, infectious and parasitic diseases have accounted for a considerable loss of manpower among Navy and Marine Corps personnel, both during military conflicts and peacetime (1). Between 1965 and 1976, the total hospital admission rate of all infectious and parasitic diseases was 909 per 100,000 persons per year (2). The average length of hospital stay for all infectious and parasitic diseases was 18.8 days. For some conditions such as hepatitis, however, the average length of stay was 40.3 days. In 1976, infectious and parasitic diseases accounted for 21.8 percent of all hospital discharge primary diagnoses (3).

Certain infectious diseases have traditionally been associated with military populations, including malaria (4), hepatitis (5-6), diarrhea (3,7), and febrile diseases such as infectious mononucleosis (8-9). A number of risk factors for these and other infectious and parasitic diseases have been identified in previous research in military populations. These include travel to developing countries where poor sanitary conditions are prevalent (7), crowded living conditions such as in ships and recruit training centers where people live in relatively close contact (10), and risk-related health behaviors such as sex with prostitutes and drug abuse (11-13).

These risks pose a significant threat to military readiness in different operational environments. In Vietnam, for instance, American military personnel conducted operations in an area where malaria, tuberculosis, diarrheal diseases, dengue, Japanese encephalitis, leptospirosis, meliodosis, and scrub typhus are endemic (14). U.S. Marines stationed in Vietnam between 1965 and 1972 were 6.6 times more likely to be hospitalized for an infectious or parasitic disease than Marines stationed elsewhere. Infectious and parasitic diseases accounted for 31,777 first hospital admissions among Marines in Vietnam, representing 16.5 percent of all diseases and nonbattle injuries in

this theater of operations (15). During the early phases of the conflict, the number of troops evacuated from Vietnam because of malaria was equal to the number evacuated because of combat wounds (4).

The object of this study was to develop a profile of infectious disease hospitalizations over a ten year period extending from 1975 through 1984. In doing so, we hoped to identify trends in rates of specific diagnoses which would serve as a baseline for the projection of hospital admissions for these conditions likely to occur under different operational scenarios. Of particular concern were diagnoses which have displayed increases in rates of first hospital admissions during this period and potential risk factors associated with these diagnoses.

METHODS

First hospital admissions for all diagnoses of infectious and parasitic diseases in U.S. Navy enlisted personnel occurring during 1 January 1975 to 31 December 1984 were identified from a computerized Medical History File edited and maintained by the Naval Health Research Center (NHRC) in San Diego, California. Medical data are provided to NHRC by the Navy Medical Data Services Center in Bethesda, Maryland.

Diagnoses were categorized according to the International Classification of Disease, Ninth Revision, Clinical Modification (ICD9-CM). Diagnoses based on ICDA-8 classification system which was used during the first half of the study period (1975-1979) were recoded using the ICD9-CM system. Only the first three digits of the ICD9-CM codes (001 to 139) were used in defining 139 diagnostic categories.

Incidence rates were defined on the basis of the first hospitalization for a new or different ICD9-CM diagnosis of each person at risk. In order to

establish complete case ascertainment, all first hospitalizations for unique diagnoses per person at risk were included. Thus, one individual may be hospitalized more than once, but multiple hospitalizations were recorded only if they were for different reasons. Incidence rates were expressed as the number of first hospitalizations per 10,000 person years.

An Enlisted Master Record File, maintained by the NHRC, provided average annual population estimates for all active-duty enlisted personnel. Age-specific and age-adjusted incidence rates were calculated for the study population (4,686,133 person-years). Age-adjustment was done using the direct method with the standard population comprised of all active-duty enlisted personnel in the U.S. Navy during the study period (16). Ninety-five per cent confidence intervals (95 per cent CI) were calculated assuming a normal distribution (17).

Variables analyzed in this study included diagnosis, age, sex, occupation, and year hospitalized. Occupational classifications were grouped into 5 categories based on similarity of assigned tasks and work environment (18). The relative risk for each infectious and parasitic diagnosis associated with variables of interest was determined on the basis of ratios of age-adjusted rates (16).

RESULTS

The age-adjusted rate of total first hospital admissions for all infectious and parasitic diseases declined significantly during this period from a high of 112.9 per 10,000 person years (95 per cent CI, 109.9 - 115.9) in 1977 to a low of 50.3 per 10,000 (95 per cent CI, 48.3 - 52.3) in 1982 (figure 1). Between 1982 and 1984, however, the rate of total first hospital admissions increased significantly to a level of 55.9 per 10,000 person years (95 per

cent CI 53.8 - 58.0).

Figure 1 about here

Annual rates of each 3-digit ICD9-CM diagnosis during this period are provided in the Appendix (Table 5). Approximately 78 percent of all first hospital admissions were accounted for by 10 specific diagnoses: viral hepatitis (ICD9-CM Code 070), other diseases due to viruses and chlamydiae (078), ill-defined intestinal infections (including diarrheal diseases) (009), infectious mononucleosis (075), rubella (056), chickenpox (varicella) (052), measles (055), intestinal infections due to other organisms (008), other venereal diseases (099), and streptococcal sore throat and scarlet fever (034) (figure 2). These diagnoses represented the burden of medical care for infectious and parasitic diseases in enlisted Navy personnel during this period.

Figure 2 about here

Annual rates for these ten diagnoses are provided in Table 1. In 1975, diarrheal diseases accounted for the highest rate, followed by viral hepatitis and rubella. By 1984, however, other diseases due to viruses and chlamydiae exhibited the highest rate, followed by chickenpox and infectious mononucleosis. Infectious diseases classified as "other diseases due to viruses and chlamydiae" include viral warts (ICD9-CM code 078.1), sweating fever (078.2) and hemorrhagic nephrosonephritis (078.6).

Table 1 about here

A comparison of rates in the first and last years of the study period do not provide a complete picture of changes in disease risk because of fluctuations in trends over the entire period. To correct for this variation, the age-adjusted rates of first hospitalization for the first five years of the study period (1975-1979) were compared with the age-adjusted rates for the second five years (1980-1984) (table 2). The excess risk ratios for other diseases due to viruses, viral hepatitis, ill-defined intestinal infections (diarrheal disease), infectious mononucleosis, rubella, measles, other venereal diseases, and streptococcal sore throat and scarlet fever indicate a significant decline in rates of first hospital admission for these diseases in the 1980-84 period relative to the 1975-79 period. Other, less common diagnoses which displayed a significant decrease in rates relative to the first five-year period include: other bacterial food poisoning (ICD9-CM Code 005), pulmonary tuberculosis (011), meningococcal infection (036), other viral exanthemata (057), mumps (072), gonococcal infections (098), dermatophytosis (110), coccidioidomycosis (114), acariasis (133), and sarcoidosis (135) (Appendix, table 6).

Table 2 about here

Two of the most common infectious and parasitic diseases exhibited an increase rather than a decline in first admission rates during the ten-year study period. The data presented in table 2 indicate that the risks of varicella and enteritis due to a specific organism increased significantly during this period. Further examination of the annual rates for all infectious and parasitic diseases revealed six other, less common diagnoses which exhibited significantly higher rates in 1980-1984 than in the previous five

year-period: early and symptomatic syphilis (ICD9-CM Code 091), other diseases of conjunctiva due to viruses and chlamydiae (077), candidiasis (112), trichomonaisis (131), herpes zoster (053), and meningitis due to enterovirus (047) (table 3). The extent to which these eight diagnoses have increased in risk is outlined in Table 4. Early and symptomatic syphilis and chickenpox exhibited the greatest risk increases in the 1980-1984 period.

Table 3 about here

Table 4 about here

Further analysis of the hospital admissions during this period revealed that the rate of total first admissions for infectious and parasitic diseases was inversely associated with age (figure 3). Personnel between the ages of 17 and 19 were particularly susceptible to diseases normally associated with childhood, including measles, mumps, and chickenpox (Appendix, table 7). In contrast, first admission rates of pulmonary tuberculosis, coccidioidomycosis, and histoplasmosis (ICD9-CM Code 115), exhibited a linear increase with age.

Figure 3 about here

When rates were adjusted to account for differences in distribution of age groups by sex, women were found to have significantly higher age-adjusted rates of total first hospitalizations for infectious diseases than men (figure 3). Women exhibited higher first admission rates for 12 specific diagnoses: intestinal infection due to other organisms, ill-defined intes-

tinal infections, streptococcal sore throat and scarlet fever, other bacterial diseases (ICD9-CM Code 040), herpes simplex (054), viral encephalitis (ICDA8 Code 065), mumps, infectious mononucleosis, other diseases due to viruses, gonococcal infections, candidiasis, and trichomonaisis (Appendix, table 6). The increasing numbers of women in the Navy during this period may account for the significant increases in Navy-wide rates of intestinal infection due to other organisms, infectious mononucleosis, streptococcal sore throat and scarlet fever, and other diseases due to viruses.

Age-adjusted first admission rates were further broken down by occupational differences of enlisted personnel (figure 4). Medical personnel had the highest rates of total first hospital admissions during this period (1808.8 per 10,000 person years), followed by apprentice and recruit personnel (1217.6 per 10,000 person years). The rates of total first admission for the remaining three occupational groups--blue collar, administrative-clerical, and electronic-technical--were fairly comparable (586.7, 562.1, and 558.2 per 10,000 person years, respectively). Medical personnel had significantly higher age-adjusted rates for ill-defined intestinal infections, streptococcal sore throat and scarlet fever, meningitis due to entervirus, chickenpox, herpes simplex, viral hepatitis, mumps, infectious mononucleosis, other diseases due to viruses and chlamydiae, and candidiasis (Appendix, table 8). Apprentice and recruit personnel had significantly higher rates of other protozoal intestinal diseases (ICD9-CM Code 007), pulmonary tuberculosis, measles, rubella, other viral exanthemata, gonococcal infections, and dermatophytosis relative to the other occupational groups.

Figure 4 about here

DISCUSSION

The overall decline in rate of total first hospital admissions among enlisted personnel with infectious and parasitic diseases would suggest that these conditions have become less of a burden to inpatient medical facilities and personnel over time. The significant increase in rates of total first admissions between 1982 and 1984, however, may signify a reversal of this trend in recent years. In addition, 10 specific diagnoses accounted for almost 80 percent of all first admissions and the first admission rates of 8 specific diagnoses significantly increased during this period. Total first hospitalization rates and rates for many specific diagnoses were also found to be significantly influenced by the age, sex, and occupation of Navy personnel.

Within the total enlisted population observed during this period, a number of subgroups were identified as being at higher risk for an infectious or parasitic disease hospital admission. Women were found to have a significantly higher rate of first admissions for twelve infectious disease diagnoses than men. Other research has demonstrated that Navy women are at significant risk for certain infectious diseases. Walker and his colleagues (3), for instance, reported that enlisted Navy women are five times more likely to be hospitalized for enteric illness than males.

Other high risk groups included medical and recruit personnel. Increased rates of hospital admissions in these two groups may be due to workplace and barracks exposure. Medical personnel responsible for treating sailors with infectious diseases such as viral hepatitis are at risk for becoming infected themselves (19). Previous research has attributed high rates of infectious mononucleosis (8), mycoplasma pneumonia (1, 20), meningococcal infections (21), rubella (22), streptococcal infections (23), and

hepatitis (24) in recruit populations to the close personal contacts (25) and stress-related reductions in immunocompetence (26) during this period.

The decline in rate of total first hospitalization and rates of many specific diagnoses during this period may be attributed to a number of factors. New vaccines, for instance, have reduced the incidence of diseases such as rubella and meningococcal infections (21) in military populations. The marked increase in streptococcal infections in 1981 resulted from the experimental termination of penicillin prophylaxis at Navy and Marine corps recruit training centers in 1979 (23). The penicillin prophylaxis program was reinstituted in 1981 after rates of streptococcal pharyngitis at a number of centers reached epidemic proportions.

Changes in the social and demographic characteristics of the Navy as a whole may also contribute to changes in rates. Increasing numbers of women in the Navy, for instance, may account for increases in enteritis due to a specific organism (intestinal infection due to other organisms), infectious mononucleosis, and other and unspecified diseases. The gradual aging of the Navy may account for declines in other diseases such as streptococcal and meningococcal infections, measles, rubella, mumps, infectious mononucleosis, and other viral diseases. Changes in risk behavior such as drug abuse has been linked to the decline of certain diseases such as hepatitis (11).

Finally, changes in operational theaters such as the end of the Vietnam conflict may also have contributed to the declines of the rates of infectious diseases during this period. A study by Blood and his colleagues (27), for instance, noted that monthly morbidity rates of infectious and parasitic diseases were significantly higher among ships deployed in waters off east and southeast Asia than among ships deployed near northeast Asia, southwest Asia, and Europe.

Several limitations to these data must be addressed when interpreting the results. First, the results do not provide a complete picture of infectious and parasitic diseases during this period because only inpatient diagnoses were included in the study. Outpatient visits and the large number of infectious and parasitic diseases which never come to the attention of the current health care system were not included. Consequently, changes in treatment policies such as an increased emphasis on outpatient rather than inpatient care may also have contributed to the changes in rates during the study period. When compared with monthly morbidity data described in a study by Blood and his colleagues (27), only one out of every 28 cases of an infectious and parasitic disease results in a hospitalization. Furthermore, this proportion does not appear to be uniform for all infectious and parasitic disease diagnoses. Some diseases such as hepatitis are more likely to result in hospitalization (11) due to the severity of symptoms, length and method of prescribed treatment, and likelihood of exposure of other personnel. Other diseases like coccidioidomycosis (28) or typhoid fever (9) may be misdiagnosed. Still other diseases may be asymptomatic and escape detection altogether. A study of infectious mononucleosis in U.S. Marines (8), for instance, found there were 10 to 20 times as many infections detected by EBV antibody seroconversion than there were hospitalizations reported for infectious mononucleosis. Reported hospital admissions and outpatient cases of enteric illness may account for only 20 percent of the total number of enteric episodes (3), and less than 1 percent of the total number of sexually transmitted diseases (27) that occur in Navy and Marine Corps personnel because the patients are not sick enough to require hospitalization or do not report to sick call with symptoms. Some personnel such as recruits and others living in barracks are also more likely to be hospitalized than others

as a means of quarantine. Rates of first hospital admission, therefore, cannot be taken as an approximation of incidence for all diagnostic categories because of underenumeration of cases.

In addition, no adjustment was made for the multiple comparisons tested in this study. Consequently, a certain number of significant associations are expected to occur on the basis of chance alone. Caution must be exercised, therefore, when evaluating the results.

Despite these limitations, these results have several implications for Navy health care providers. First, hospital admissions reflect the impact of infectious and parasitic diseases on one aspect of the Navy health care system. Their impact on Navy hospital personnel and resources appears to have diminished during this period, suggesting that resources devoted to treatment of these conditions may be better utilized in other settings such as outpatient clinics. However, the increase in rates in recent years may signal a need for greater allocation of treatment resources in an inpatient setting.

Second, the apparent increase in recent years may indicate a need for increased preventive medicine efforts throughout the Navy. Prophylaxis appears to be essential in reducing rates for some conditions such as streptococcal infections (23), measles and rubella (22). The increase in admission rates for streptococcal infections in 1981 reflects the hazards associated with eliminating existing prophylaxis programs and the potential benefits of implementing new ones for other conditions. Other diseases such as hepatitis B may similarly benefit with the introduction of immunization programs (11).

Third, a better understanding of specific diagnoses and the risk factors associated with each diagnosis is required. The Disease Alert Reports pro-

duced by the Navy Environmental Health Center in Norfolk, Virginia (29), or the infectious disease surveillence efforts of participants in overseas military exercises by Navy Medical Research Units (30) are examples of a worldwide effort to identify geographic areas of endemic disease risk. Such information is critical for the projection of rates of infectious and parasitic diseases likely to occur under various operational scenarios. Such rates would provide the basis for efficient planning and allocation of medical personnel and resources to assist the fleet in maintaining military readiness throughout the world.

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Figure 1. Age-adjusted Total First Hospitalization Rates (per 10,000 person years) for Infectious and Parasitic Diseases by Year, U.S. Navy Enlisted Personnel, 1975-1984

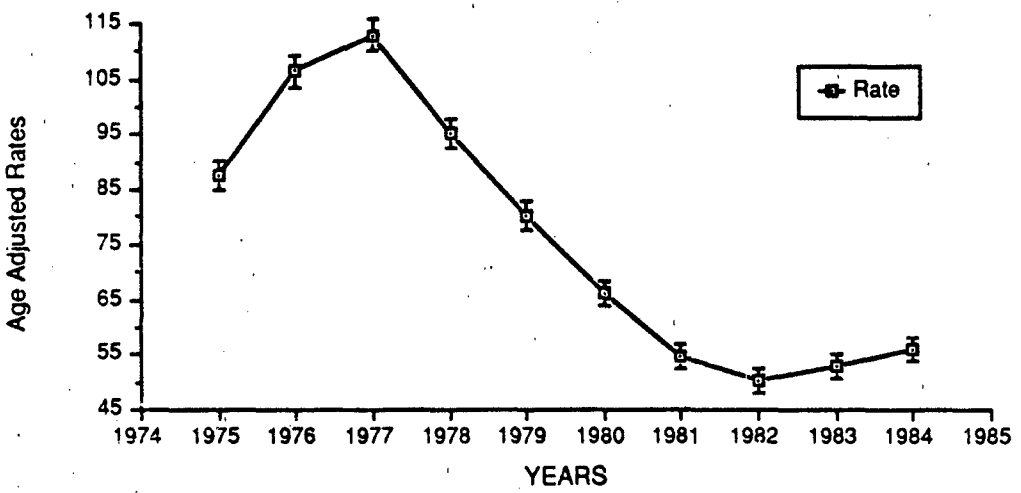
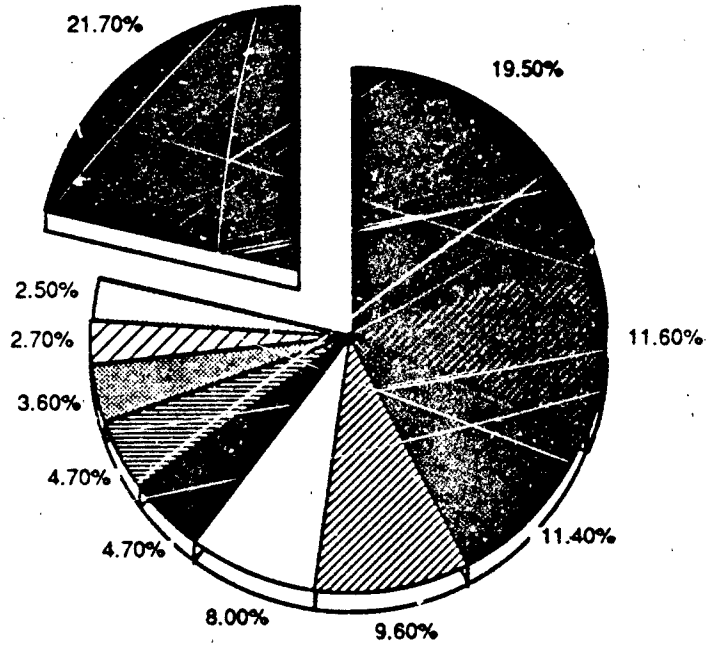


Figure 2. Percentage Distribution of Most Frequent Hospitalizations for Infectious and Parasitic Diseases by Diagnosis, U.S. Navy Personnel,1975-1984



ICD 9 Codes

- 078 Other diseases due to viruses and Chlamydiae
- 070 Viral hepatitis
- 009 Ill defined intestinal infections (Diarrheal disease)
- 075 Infectious mononucleosis
- 056 Rubella
- 052 Chickenpox
- 055 Measles
- 008 Intestinal infections due to other Oganisms
- 078 Other venereal diseases
- 034 Streptococcal, sore throat and scarlet fever
- All other diagnoses

Table 1. Crude First Hospitalization Rates (per 10,000 person years) for Top Ten[a] Infectious and Parasitic Diseases by Diagnosis and Year, U.S. Navy Enlisted Personnel, 1975-1984

ICD9-CM Code	Diagnosis	Year 1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	Total
1) 078	Other diseases due to viruses	11.5	23.3	24.5	24.4	13.4	13.5	12.2	10.3	9.9	8.9	15.0
2) 070	Viral hepatitis	12.7	10.9	10.7	8.8	8.0	9.7	8.1	7.7	7.8	5.5	9.0
3) 009	Ill-defined intestinal infection	14.6	14.0	17.0	13.6	10.7	6.5	3.6	2.5	2.8	3.7	8.8
4) 075	Infectious mononucleosis	9.6	9.7	9.9	7.9	7.3	6.8	6.7	5.7	6.2	5.9	7.4
5) 056	Rubella	11.7	15.5	18.6	11.5	5.5	0.2	0.1	0.1	0.0	0.1	6.2
6) 052	Chickenpox	1.5	2.2	2.7	2.6	2.8	2.9	3.8	4.5	4.6	8.2	3.6
7) 055	Measles	1.3	9.3	11.3	5.9	4.0	2.0	0.2	0.1	0.1	2.3	3.6
8) 008	Intestinal infection due to other organisms	1.9	2.5	2.2	2.4	2.3	3.0	2.8	3.3	4.0	3.1	2.8
9) 099	Other venereal diseases	3.6	3.8	4.0	3.6	4.0	0.5	0.6	0.4	0.4	0.4	2.1
10) 034	Streptococcal sore throat & scarlet fever	2.2	2.4	2.1	2.1	1.9	1.8	2.5	1.5	1.7	1.4	2.0

a. As defined by the total number of first hospitalizations.

Table 2. Five Year Relative Risk[a] for Top Ten[b] Infectious and Parasitic Diseases by Diagnosis, Enlisted Navy Personnel, 1979-1984

	ICD9-CM Code	Diagnosis	1975-1979 Number	1975-1979 Rate	1980-1984 Number	1980-1984 Rate	Relative Risk	95% C.I.
1)	078	Other diseases due to viruses	4446	19.4	2605	10.9	1.78	(1.69-1.87)
2)	070	Viral hepatitis	2353	10.3	1850	7.7	1.34	(1.26-1.42)
3)	009	Ill-defined intestinal infection	3209	14.0	908	3.8	3.68	(3.41-3.96)
4)	075	Infectious mononucleosis	1993	8.7	1495	6.2	1.40	(1.31-1.50)
5)	056	Rubella	2875	12.5	25	0.1	125.00	(75.79-174.21)
6)	052	Chickenpox	540	2.4	1164	4.9	0.49	(0.44-0.54)
7)	055	Measles	1473	6.4	225	0.9	7.11	(6.11-8.11)
8)	008	Intestinal infection due to other organism	517	2.3	780	3.3	0.70	(0.62-0.77)
9)	099	Other venereal diseases	873	3.8	117	0.5	7.60	(6.13-9.07)
10)	034	Streptococcal sore throat & scarlet fever	492	2.1	427	1.8	1.17	(1.02-1.32)

a. (1974-79/(1980-84)
b. As determined by the total number of first hospitalizations.

Table 3. Crude First Hospitalization Rates (per 10,000 person years) for Selected[a] Infectious and Parasitic Diseases by Diagnosis and Year, U.S. Navy Enlisted Personnel, 1975–1984

ICD9-CM Code	Diagnosis	Year: 1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	Total
1) 091	Early syphilis, symptomatic	0.4	0.4	0.6	0.5	0.5	1.5	1.2	1.0	1.0	1.0	0.8
2) 052	Chickenpox	1.5	2.2	2.7	2.6	2.8	2.9	3.8	4.5	4.6	8.2	3.6
3) 077	Other diseases of conjunctiva due to viruses & Chlamydiae	0.2	0.0	0.2	0.2	0.2	0.3	0.5	0.2	0.2	0.3	0.2
4) 112	Candidiasis	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2
5) 131	Trichomoniasis	0.3	0.2	0.2	0.2	0.1	0.3	0.4	0.4	0.2	0.2	0.2
6) 008	Intestinal infection due to other organism	1.9	2.5	2.2	2.4	2.3	3.0	2.8	3.3	4.0	3.1	2.8
7) 053	Herpes zoster	0.4	0.2	0.3	0.2	0.2	0.4	0.2	0.4	0.5	0.4	0.3
8) 047	Aseptic meningitis due to enterovirus	0.9	0.7	0.5	0.6	0.9	0.7	0.8	1.0	1.2	0.9	0.8

a. Diagnoses were selected on the basis of an odds ratio less than one, signifying that the cumulative rate for the 1980–84 period was significantly greater than the cumulative rate for the 1975–79 period.

Table 4. Five Year Relative Risk[a] for Selected[b] Infectious and Parasitic Diseases by Diagnosis, Enlisted Navy Personnel, 1979–1984

ICD9-CM Code	Diagnosis	1975–1979 Number	1975–1979 Rate	1980–1984 Number	1980–1984 Rate	Relative Risk	95% C.I.
1) 091	Early syphilis, symptomatic	112	0.5	268	1.1	0.45	(0.35–0.55)
2) 052	Chickenpox	540	2.4	1164	4.9	0.49	(0.44–0.54)
3) 077	Other diseases of conjunctiva due to viruses & Chlamydiae	41	0.2	71	0.3	0.67	(0.41–0.92)
4) 112	Candidiasis	43	0.2	62	0.3	0.67	(0.41–0.93)
5) 131	Trichomoniasis	50	0.2	65	0.3	0.67	(0.42–0.91)
6) 008	Intestinal infection due to other organism	517	2.3	780	3.3	0.70	(0.62–0.77)
7) 053	Herpes zoster	61	0.3	91	0.4	0.75	(0.51–0.99)
8) 047	Meningitis due to enterovirus	163	0.7	220	0.9	0.78	(0.62–0.94)

a. (1974-79/(1980–84).

b. Diagnoses were selected on the basis of an odds ratio less than 1, signifying that the cumulative rate for the 1980–84 period was significantly greater than the cumulative rate for the 1975–79 period.

Figure 3. Total First Hospitalization Rates (per 10,000 person years) for Infectious and Parasitic Diseases by Age and Sex, U.S. Navy Enlisted Personnel, 1975-1984

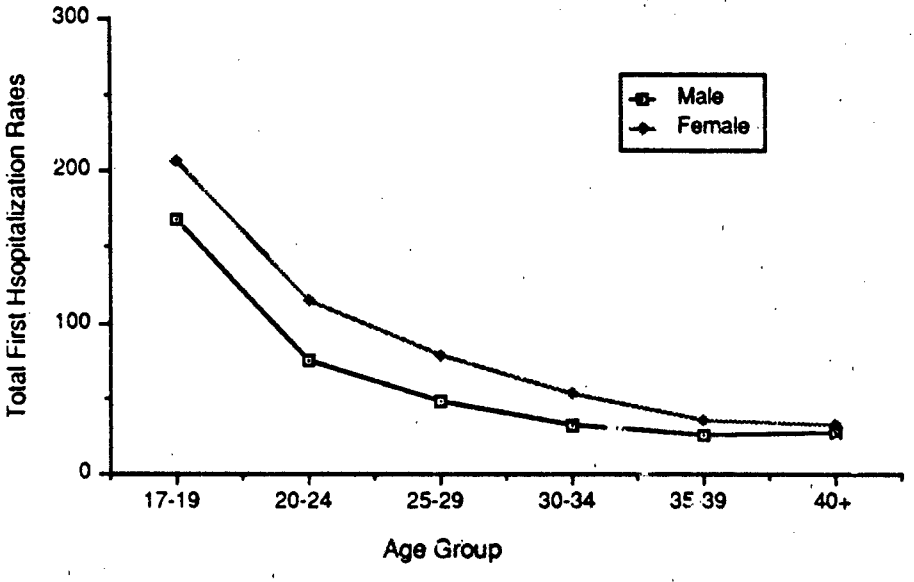
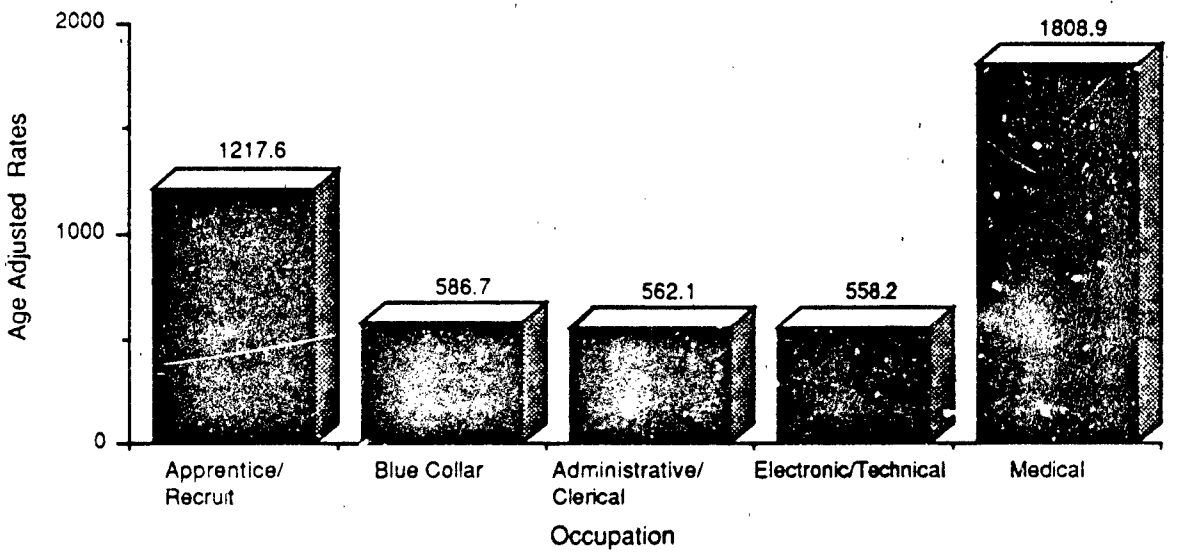


Figure 4. Age-adjusted Total First Hospitalization Rates (per 10,000 person years) for Infectious and Parasitic Diseases by Occupation, U.S. Navy Enlisted Personnel, 1975-1984.



APPENDIX

Table 5. First Hospitalization Rates (per 10,000 person years) for Infectious and Parasitic Diseases by Diagnosis and Year, U.S. Navy Enlisted Personnel, 1975–1984

ICD9-CM Code	Diagnosis (No. of cases)	Year 1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	Total
002	Typhoid & paratyphoid fevers (N=70)	0.1	0.0	0.1	0.4	0.2	0.3	0.0	0.1	0.1	0.2	0.2
003	Other salmonella infections (N=102)	0.3	0.2	0.2	0.2	0.1	0.2	0.3	0.2	0.2	0.2	0.2
004	Shigellosis (N=132)	0.2	0.3	0.3	0.2	0.5	0.2	0.3	0.2	0.3	0.3	0.3
005	Other food poisoning (bacterial) (N=138)	0.3	0.2	0.9	0.3	0.2	0.3	0.4	0.2	0.1	0.1	0.3
006	Amebiasis (N=90)	0.2	0.2	0.2	0.1	0.2	0.4	0.1	0.1	0.2	0.2	0.2
007	Other protozoal intestinal diseases (N=92)	0.1	0.5	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2
008	Intestinal infections due to other organisms (N=1297)	1.9	2.5	2.2	2.4	2.3	3.0	2.8	3.3	4.0	3.1	2.8
009	Ill-defined intestinal infections (N=4119)	14.6	14.0	17.0	13.6	10.7	6.5	3.6	2.5	2.8	3.7	8.8
010	Silicotuberculosis* (N=1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
011	Pulmonary tuberculosis (N=370)	1.0	1.4	1.1	0.8	0.7	0.8	0.6	0.4	0.6	0.5	0.8
012	Other respiratory tuberculosis (N=192)	1.1	0.8	0.8	0.5	0.6	0.1	0.1	0.0	0.1	0.0	0.4
013	Tuberculosis of meninges & CNS (N=4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
014	Tuberculosis of intestines, peritoneum & mesenteric glands (N=6)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
015	Tuberculosis of bones & joints (N=12)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
016	Tuberculosis of genitourinary system (N=21)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
017	Tuberculosis of other organs (N=29)	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1
018	Miliary tuberculosis (N=7)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
137	Late effects of tuberculosis (N=14)	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
020	Plague (N=5)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 5 (continued)

ICD9-CM Code	Diagnosis (No. of cases)	Year 1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	Total
021	Tularemia (N=3)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
022	Anthrax (N=1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
023	Brucellosis (N=5)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
024	Glanders (N=2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
025	Melioidosis ((N=1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
027	Other zoonotic bacterial diseases (N=2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
030	Leprosy (N=13)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
031	Diseases due to other mycobacteria (N=12)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
032	Diphtheria (N=1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
034	Streptococcal sore throat & scarlet fever (N=919)	2.2	2.4	2.1	2.1	1.9	1.8	2.5	1.5	1.7	1.4	2.0
035	Erysipelas (N=43)	0.1	0.2	0.2	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
036	Meningococcal infection (N=70)	0.3	0.1	0,2	0.1	0.1	0.1	0.2	0.3	0.1	0.0	0.1
037	Tetanus (N=1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
038	Septicemia (N=204)	0.5	0.5	0.5	0.5	0.5	0.3	0.5	0.3	0.4	0.4	0.4
040	Other bacterial diseases (N=205)	0.6	0.5	0.3	0.4	0.3	0.5	0.5	0.6	0.4	0.4	0.4
045	Acute poliomyelitis (N=7)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
047	Meningitis due to enterovirus (N=383)	0.9	0.7	0.5	0.6	0.9	0.7	0.8	1.0	1.2	0.9	0.8
048	Other enterovirus diseases of CNS (N=6)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
050	Smallpox (N=4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
051	Cowpox (N=1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
052	Chickenpox (N=1704)	1.5	2.2	2.7	2.6	2.8	2.9	3.8	4.5	4.6	8.2	3.6
053	Herpes zoster (N=152)	0.1	0.2	0.3	0.2	0.2	0.4	0.2	0.4	0.5	0.4	0.3

Table 5 (continued)

ICD9-CM Code	Diagnosis (No. of cases)	Year 1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	Total
054	Herpes simplex (N=496)	1.1	1.0	1.1	1.0	1.2	1.1	1.1	0.9	1.1	0.9	1.0
055	Measles (N=1698)	1.3	9.3	11.3	5.9	4.0	2.0	0.2	0.1	0.1	2.3	3.6
056	Rubella (N=2900)	11.7	15.5	18.6	11.5	5.5	0.2	0.1	0.1	0.0	0.1	6.2
057	Other viral exanthemata (N=895)	0.8	0.7	1.5	0.9	7.8	4.2	1.0	0.8	0.3	1.3	1.9
060	Yellow Fever (N=1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
061	Dengue (N=7)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
062	Mosquito-borne viral encephalitis (N=2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
063	Tick-borne viral encephalitis (N=1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
065	Viral encephalitis* (N=49)	0.2	0.1	0.2	0.2	0.0	0.1	0.0	0.0	0.1	0.1	0.1
065	Arthropod-borne hemorrhagic fever (N=2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
070	Viral hepatitis (N=4203)	12.7	10.9	10.7	8.8	8.0	9.7	8.1	7.7	7.8	5.5	9.0
071	Rabies (N=14)	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
072	Mumps (N=156)	0.7	0.7	0.3	0.4	0.1	0.2	0.2	0.3	0.3	0.2	0.3
073	Ornithosis (N=4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
074	Specific diseases due to Coxsackie virus (N=23)	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
075	Infectious mononucleosis (N=3488)	9.6	9.7	9.9	7.9	7.3	6.8	6.7	5.7	6.2	5.9	7.4
076	Trachoma (N=5)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
077	Other diseases of conjunctiva due to viruses and Chlamydiae (N=112)	0.2	0.0	0.2	0.2	0.2	0.3	0.5	0.2	0.2	0.3	0.2
078	Other diseases due to viruses (N=7051)	11.5	23.3	24.5	24.4	13.4	13.5	12.2	10.3	9.9	8.9	15.0
081	Other typhus (N=12)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
082	Tick-borne rickettsioses (N=14)	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
083	Other rickettsioses (N=10)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0

Table 5 (continued)

ICD9-CM Code	Diagnosis (No. of cases)	Year 1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	Total
084	Malaria (N=58)	0.1	0.2	0.0	0.1	0.0	0.2	0.2	0.2	0.0	0.1	0.1
085	Leishmaniasis (N=4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
086	American trypanosomiasis (N=1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
087	Relapsing fever (N=5)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
088	Other arthropod-borne diseases (N=4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
090	Congenital syphilis (N=10)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
091	Early syphilis, symptomatic (N=380)	0.4	0.4	0.6	0.5	0.5	1.5	1.2	1.0	1.0	1.0	0.8
092	Early syphilis, latent (N=23)	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0
094	Neurosyphilis (N=35)	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.2	0.1	0.1	0.1
097	Other & unspecified syphilis (N=176)	0.4	0.4	0.4	0.3	0.4	0.6	0.3	0.4	0.4	0.2	0.4
095	Other forms of late syphilis, with symptoms (N=15)	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0
098	Gonococcal infections (N=624)	2.0	1.4	1.4	1.5	1.3	1.7	1.0	1.0	1.2	0.9	1.3
099	Other venereal diseases (N=990)	3.6	3.8	4.0	3.6	4.0	0.5	0.6	0.4	0.4	0.4	2.1
100	Leptospirosis (N=8)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
101	Vincent's angina (N=23)	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
102	Yaws (N=4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
103	Pinta (N=1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110	Dermatophytosis (N=805)	2.8	3.0	2.1	1.8	1.5	1.3	1.2	1.4	1.2	0.9	1.7
111	Dermatomycosis, other & unspecified (N=18)	0.5	0.5	0.4	0.4	0.2	0.5	0.4	0.3	0.5	0.2	0.4
112	Candidiasis (N=105)	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2
113	Actinomycosis* (N=14)	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
114	Coccidioidomycosis (N=71)	0.2	0.3	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.2

Table 5 (continued)

ICD9-CM Code	Diagnosis (No. of cases)	1975	1976	1977	1978	1979	Year 1980	1981	1982	1983	1984	Total
115	Histoplasmosis (N=63)	0.4	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
116	Blastomycosis (N=12)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0
117	Other mycoses (N=31)	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1
121	Other trematode infections (N=1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122	Echinococcosis (N=10)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
123	Other cestode infections (N=12)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
124	Trichiniasis (N=3)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125	Filiarial infection (N=2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
126	Ancylostomiasis (N=4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127	Other intestinal helminthiases (N=31)	0.2	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.1
128	Other & Unspecified helminthiasis (N=3)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
129	Intestinal parasitism, unspecified (N=1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130	Toxoplasmosis (N=30)	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.1
131	Trichomoniasis (N=115)	0.3	0.2	0.2	0.2	0.1	0.3	0.4	0.4	0.2	0.2	0.2
132	Pediculosis & phthirus infestation (N=19)	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
133	Acariasis (N=118)	0.4	0.5	0.6	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.3
134	Other infestation (N=49)	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
135	Sarcoidosis (N=356)	0.9	0.9	0.7	0.9	0.8	0.8	0.6	0.6	0.6	0.8	0.8
136	Other & Unspecified Infectious & Parasitic Diseases (N=270)	0.7	0.8	0.5	0.9	0.6	0.6	0.3	0.4	0.6	0.4	0.6
TOTAL (N=36238)		91.2	112.7	120.4	98.5	81.1	66.6	54.8	49.6	51.2	52.9	77.3

* ICDA-8 code,

Table 6. Five-Year Relative Risk[a] for Infectious and Parasitic Diseases by Diagnosis[b], U.S. Navy Enlisted Personnel, 1979–1984

ICD9-CM Code	Diagnosis	1975–1979 Number	1975–1979 Rate	1980–1984 Number	1980–1984 Rate	Relative Risk	95% C.I.
002	Typhoid & paratyphoid fevers	38	0.2	32	0.1	2.00	(1.53–2.47)
003	Other salmonella infections	48	0.2	54	0.2	1.00	(0.61–1.39)
004	Shigellosis	67	0.3	65	0.3	1.00	(0.66–1.34)
005	Other food poisoning (bacterial)	85	0.4	53	0.2	2.00	(1.31–2.69)
006	Amebiasis	38	0.2	52	0.2	1.00	(0.58–1.42)
007	Other protozoal intestinal diseases	48	0.2	44	0.2	1.00	(0.59–1.41)
008	Intestinal infections due to other organisms	517	2.3	780	3.3	0.70	(0.62–0.77)
009	Ill-defined intestinal infections	3209	14.0	908	3.8	3.68	(3.41–3.96)
011	Pulmonary tuberculosis	228	1.0	142	0.6	1.67	(1.32–2.02)
012	Other respiratory tuberculosis	178	0.8	14	0.1	8.00	(3.65–12.35)
014	Tuberculosis of intestines, pritoneum, & mesenteric glands	4	0.0	2	0.0	–	–
015	Tuberculosis of bones & joints	8	0.0	4	0.0	–	–
016	Tuberculosis of genitourinary system	16	0.1	5	0.0	–	–
017	Tuberculosis of other organs	17	0.1	12	0.1	1.00	(0.26–1.74)
018	Miliary tuberculosis	3	0.0	4	0.0	–	–
137	Tuberculosis, Late effects of	10	0.0	4	0.0	–	–
030	Leprosy	10	0.0	3	0.0	–	–
031	Diseases due to other mycobacteria	4	0.0	8	0.0	–	–
034	Streptococcal sore throat & scarlet fever	492	2.1	427	1.8	1.17	(1.02–1.32)
035	Erysipelas	24	0.1	19	0.1	1.00	(0.40–1.60)
036	Meningococcal infection	37	0.2	33	0.1	2.00	(1.06–2.945)
038	Septicemia	113	0.5	91	0.4	1.25	(0.90–1.60)
040	Other bacterial diseases	91	0.4	114	0.5	0.80	(0.58–1.02)

Table 6 (continued)

ICD9-CM Code	Diagnosis	1975-1979 Number	1975-1979 Rate	1980-1984 Number	1980-1984 Rate	Relative Risk	95% C.I.
045	Acute poliomyelitis	5	0.0	2	0.0	-	-
047	Meningitis due to enterovirus	163	0.7	220	0.9	0.78	(0.62-0.94)
048	Other enterovirus diseases of CNS	3	0.0	3	0.0	-	-
052	Chickenpox	540	2.4	1164	4.9	0.49	(0.44-0.54)
053	Herpes zoster	61	0.3	91	0.4	0.75	(0.51-0.99)
054	Herpes simplex	245	1.1	242	1.0	1.10	(0.90-1.30)
055	Measles	1473	6.4	225	0.9	7.11	(6.11-8.11)
056	Rubella	2875	12.5	25	0.1	125.00	(75.79-174.21)
057	Other viral exanthemata	537	2.3	358	1.5	1.53	(1.33-1.74)
061	Dengue	2	0.0	5	0.0	-	-
065	Viral encephalitis*	33	0.1	16	0.1	1.00	(0.40-1.60)
070	Viral hepatitis	2353	10.3	1850	7.7	1.34	(1.26-1.42)
071	Rabies	5	0.0	9	0.0	-	-
072	Mumps	98	0.4	58	0.2	2.00	(1.35-2.65)
074	Specific diseases due to Coxsackie virus	14	0.1	9	0.0	-	-
075	Infectious mononucleosis	1993	8.7	1495	6.2	1.40	(1.31-1.50)
077	Other diseases of conjunctiva due to viruses & Chlamydiae	41	0.2	71	0.3	0.67	(0.41-0.92)
078	Other diseases due to viruses	4446	19.4	2605	10.9	1.78	(1.69-1.87)
081	Other typhus	9	0.0	3	0.0	-	-
082	Tick-borne rickettsioses	11	0.0	3	0.0	-	-
083	Other rickettsioses	3	0.0	7	0.0	-	-
084	Malaria	25	0.1	33	0.1	1.00	(0.48-1.52)
090	Congential syphilis	8	0.0	2	0.0	-	-
091	Early syphilis, symptomatic	112	0.5	268	1.1	0.45	(0.35-0.55)

Table 6 (continued)

ICD9-CM Code	Diagnosis	1975-1979 Number	1975-1979 Rate	1980-1984 Number	1980-1984 Rate	Relative Risk	95% C.I.
092	Early syphilis, Latent	15	0.1	8	0.0	-	-
094	Neurosyphilis	14	0.1	21	0.1	1.00	(0.32-1.68)
097	Other & unspecified syphilis	87	0.4	89	0.4	1.00	(0.70-1.30)
095	Other forms of late syphilis with symptoms	10	0.0	5	0.0	-	-
098	Gonococcal infections	350	1.5	274	1.1	1.36	(1.15-1.58)
099	Other venereal diseases	873	3.8	117	0.5	7.60	(6.13-9.07)
100	Leptospirosis	7	0.0	1	0.0	-	-
101	Vincent's angina	17	0.1	6	0.0	-	-
110	Dermatophytosis	516	2.2	289	1.2	1.83	(1.57-2.10)
111	Dermatomycosis, other & unspecified	95	0.4	86	0.4	1.00	(0.71-1.29)
112	Candidiasis	43	0.2	62	0.3	0.67	(0.41-0.93)
113	Actinomycosis*	11	0.0	3	0.0	-	-
114	Coccidioidomycosis	47	0.2	24	0.1	2.00	(1.02-2.98)
115	Histoplasmosis	37	0.2	26	0.1	2.00	(1.00-3.00)
116	Blastomycosis	4	0.0	8	0.0	-	-
117	Other mycoses	24	0.1	7	0.0	-	-
122	Echinococcosis	3	0.0	7	0.0	-	-
123	Other cestode infections	11	0.0	1	0.0	-	-
127	Other intestinal helminthiases	17	0.1	14	0.1	1.00	(0.29-1.71)
130	Toxoplasmosis	15	0.1	15	0.1	1.00	(0.28-1.72)
131	Trichomoniasis	50	0.2	65	0.3	0.67	(0.42-0.91)
132	Pediculosis & phthirus infestation	12	0.1	7	0.0	-	-
133	Acariasis	82	0.4	36	0.2	2.00	(1.22-2.78)
134	Other infestation	27	0.1	22	0.1	1.00	(0.44-1.56)

Table 6 (continued)

ICD9-CM Code	Diagnosis	1975-1979 Number	1975-1979 Rate	1980-1984 Number	1980-1984 Rate	Relative Risk	95% C.I.
135	Sarcoidosis	195	0.9	161	0.7	1.29	(1.02-1.55)
136	Other & unspecified infectious & parasitic diseases	156	0.7	114	0.5	1.40	(1.06-1.74)
Total		23109	100.7	13129	54.9	1.83	(1.80-1.87)

a. (1974-79/1980-84).
b. Includes only diagnoses with six or more cases.

*. ICDA-8 code

Table 7. First Hospitalization Rates (per 10,000 person years) of Infectious and Parasitic Diseases by Age, Sex, and Diagnosis, U.S. Navy Enlisted Personnel, 1975–1984.

ICD9-CM Code	Diagnosis	Sex	Age Group 17–19 N	17–19 Rate	20–24 N	20–24 Rate	25–29 N	25–29 Rate	30–34 N	30–34 Rate	35–39 N	35–39 Rate	40+ N	40+ Rate	Age-adjusted Total N	Age-adjusted Total Rate
002	Typhoid & paratyphoid fevers	M	9	0.1	28	0.1	11	0.1	14	0.3	4	0.1	2	0.1	68	0.2
		F	1	0.2	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0	2	0.1
003	Other salmonella infections	M	13	0.2	47	0.2	24	0.3	6	0.1	1	0.0	2	0.1	93	0.2
		F	1	0.2	6	0.4	2	0.3	0	0.0	0	0.0	0	0.0	9	0.3
004	Shigellosis	M	17	0.2	67	0.4	35	0.3	8	0.2	9	0.2	3	0.2	129	0.3
		F	0	0.0	3	0.2	0	0.0	0	0.0	0	0.0	0	0.0	3	0.1
005	Other food poisoning (bacterial)	M	32	0.4	50	0.3	15	0.2	7	0.1	5	0.1	3	0.2	112	0.3
		F	11	2.4	10	0.6	4	0.7	0	0.0	1	2.5	0	0.0	26	0.9
006	Amebiasis	M	9	0.1	33	0.2	20	0.3	16	0.3	8	0.2	2	0.2	88	0.2
		F	0	0.0	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1
007	Other protozoal intestinal diseases	M	9	0.1	44	0.2	19	0.2	10	0.2	6	0.2	1	0.1	89	0.2
		F	0	0.0	2	0.1	1	0.2	0	0.0	0	0.0	0	0.0	3	0.1
008	Intestinal infection due to other organisms	M	251	3.5	519	2.8	164	2.1	69	1.4	44	1.2	13	0.8	1060	2.4
		F	51	11.3	139	9.0	38	6.6	6	3.3	1	2.5	1	7.9	236	8.4
009	Ill-defined intestinal infections	M	1092	15.2	1588	8.4	489	6.3	194	3.9	119	3.2	66	4.2	3548	8.1
		F	145	32.1	326	21.2	79	13.7	16	8.9	0	0.0	2	15.7	568	20.3
011	Pulmonary tuberculosis	M	23	0.3	101	0.5	77	1.0	58	1.2	61	1.6	39	2.5	359	0.8
		F	0	0.0	4	0.3	6	1.0	1	0.6	0	0.0	0	0.0	11	0.4
012	Other respiratory tuberculosis	M	28	0.4	68	0.4	24	0.3	26	0.5	29	0.8	11	0.7	186	0.4
		F	1	0.2	4	0.3	1	0.2	0	0.0	0	0.0	0	0.0	6	0.2

Table 7 (continued)

ICD9-CM Code	Diagnosis	Sex	Age Group 17–19 N	17–19 Rate	20–24 N	20–24 Rate	25–29 N	25–29 Rate	30–34 N	30–34 Rate	35–39 N	35–39 Rate	40+ N	40+ Rate	Age adjusted Total N	Age adjusted Total Rate
014	Tuberculosis of intestines, peritoneum & mesenteric glands	M	0	0.0	1	0.0	1	0.0	1	0.0	2	0.0	1	0.0	6	0.0
		F	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
015	Tuberculosis of bones & joints	M	3	0.0	2	0.0	1	0.0	1	0.0	2	0.1	1	0.1	10	0.0
		F	0	0.0	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1
016	Tuberculosis of genitourinary system	M	0	0.0	3	0.0	6	0.1	5	0.1	4	0.1	0	0.0	18	0.0
		F	1	0.2	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	3	0.1
017	Tuberculosis of other organs	M	3	0.0	3	0.0	7	0.1	5	0.1	4	0.1	4	0.3	26	0.1
		F	1	0.2	0	0.0	2	0.3	0	0.0	0	0.0	0	0.0	3	0.1
018	Military tuberculosis	M	0	0.0	3	0.0	1	0.0	3	0.1	0	0.0	0	0.0	7	0.0
		F	–	–	–	–	–	–	–	–	–	–	–	–	–	–
137	Late effects of tuberculosis	M	0	0.0	3	0.0	3	0.0	1	0.0	4	0.1	2	0.1	13	0.0
		F	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0
023	Brucellosis	M	0	0.0	2	0.0	2	0.0	0	0.0	0	0.0	0	0.0	4	0.0
		F	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0
030	Leprosy	M	0	0.0	4	0.0	7	0.1	1	0.0	1	0.0	0	0.0	13	0.0
		F	–	–	–	–	–	–	–	–	–	–	–	–	–	–
031	Diseases due to other mycobacteria	M	2	0.0	3	0.0	0	0.0	1	0.0	2	0.1	3	0.2	11	0.0
		F	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0
034	Streptococcal sore throat & scarlet fever	M	300	4.2	361	1.9	82	1.1	38	0.8	10	0.3	5	0.3	796	1.8
		F	45	10.0	61	4.0	14	2.4	2	1.1	0	0.0	0	0.0	122	4.4
035	Erysipelas	M	9	0.1	18	0.1	5	0.1	2	0.0	4	0.1	5	0.3	43	0.1
		F	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Table 7 (continued)

ICD9-CM Code	Diagnosis	Sex	Age Group 17-19 N	17-19 Rate	20-24 N	20-24 Rate	25-29 N	25-29 Rate	30-34 N	30-34 Rate	35-39 N	35-39 Rate	40+ N	40+ Rate	Age-adjusted Total N	Age-adjusted Total Rate
036	Meningococcal infection	M	33	0.5	27	0.1	6	0.1	1	0.0	1	0.0	0	0.0	68	0.2
		F	1	0.2	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1
038	Septicemia	M	31	0.4	85	0.5	28	0.4	15	0.3	14	0.4	12	0.8	185	0.4
		F	3	0.7	10	0.6	4	0.7	2	1.1	0	0.0	0	0.0	19	0.7
040	Other bacterial diseases	M	36	0.5	77	0.4	33	0.4	11	0.2	8	0.2	11	0.7	176	0.4
		F	5	1.1	19	1.2	5	0.9	0	0.0	0	0.0	0	0.0	29	1.0
045	Acute poliomyelitis	M	0	0.0	1	0.0	1	0.0	3	0.1	1	0.0	1	0.1	7	0.0
		F	–	–	–	–	–	–	–	–	–	–	–	–	–	–
047	Meningitis due to enterovirus	M	51	0.7	161	0.9	74	0.9	37	0.8	19	0.5	2	0.1	344	0.8
		F	6	1.3	20	1.3	10	1.7	2	1.1	1	2.5	0	0.0	39	1.4
048	Other enterovirus diseases of CNS	M	0	0.0	1	0.0	1	0.0	3	0.1	0	0.0	0	0.0	5	0.0
		F	0	0.0	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0	1	0.0
052	Chickenpox	M	709	9.9	669	3.6	156	2.0	43	0.9	29	0.8	17	1.1	1623	3.7
		F	19	4.2	53	3.4	7	1.2	1	0.6	0	0.0	0	0.0	80	2.9
053	Herpes zoster	M	33	0.5	55	0.3	22	0.3	15	0.3	10	0.3	3	0.2	138	0.3
		F	3	0.7	7	0.5	3	0.5	0	0.0	1	2.5	0	0.0	14	0.5
054	Herpes simplex	M	77	1.1	144	0.8	51	0.7	25	0.5	12	0.3	3	0.2	312	0.7
		F	41	9.1	101	6.6	29	5.0	4	2.2	0	0.0	0	0.0	175	6.3
055	Measles	M	1271	17.1	338	1.8	36	0.5	6	0.1	2	0.1	2	0.1	1655	3.8
		F	23	5.1	14	0.9	4	0.7	1	0.6	0	0.0	0	0.0	42	1.5
056	Rubella	M	2160	30.1	593	3.2	53	0.7	7	0.1	1	0.0	1	0.1	2815	6.4
		F	44	9.7	36	2.3	3	0.5	1	0.6	0	0.0	0	0.0	84	3.0
057	Other viral exanthemata	M	538	7.5	259	1.4	33	0.4	3	0.1	0	0.0	0	0.0	833	1.9
		F	50	6.4	30	1.9	1	0.2	1	0.6	1	2.5	0	0.0	62	2.2

Table 7 (continued)

ICD9-CM Code	Diagnosis	Sex	Age Group 17-19 N	17-19 Rate	20-24 N	20-24 Rate	25-29 N	25-29 Rate	30-34 N	30-34 Rate	35-39 N	35-39 Rate	40+ N	40+ Rate	Age-adjusted Total N	Age-adjusted Total Rate
061	Dengue	M	1	0.0	5	0.0	1	0.0	0	0.0	0	0.0	0	0.0	7	0.0
		F	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
065	Viral encephalitis*	M	9	0.1	23	0.1	7	0.1	4	0.1	3	0.1	0	0.0	46	0.1
		F	1	0.2	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	3	9.1
070	Viral hepatitis	M	722	10.1	2227	11.8	657	8.4	256	5.2	105	2.8	38	2.4	4005	9.1
		F	35	7.7	113	7.3	42	7.3	6	3.3	1	2.5	1	7.9	198	7.1
071	Rabies	M	0	0.0	10	0.1	2	0.0	1	0.0	0	0.0	1	0.1	14	0.0
		F	–	–	–	–	–	–	–	–	–	–	–	–	–	–
072	Mumps	M	39	0.5	58	0.3	15	0.2	13	0.3	8	0.2	7	0.4	140	0.3
		F	3	0.7	10	0.6	2	0.3	1	0.6	0	0.0	0	0.0	16	0.6
074	Specific diseases due to Coxsackie virus	M	3	0.0	13	0.1	2	0.0	0	0.0	1	0.0	1	0.1	40	0.0
		F	0	0.0	2	0.1	1	0.2	0	0.0	0	0.0	0	0.0	3	0.1
075	Infectious mononucleosis	M	1153	16.1	1682	8.9	201	2.6	45	0.9	20	0.5	4	0.3	3105	7.0
		F	186	41.2	163	10.6	27	4.7	4	2.2	2	5.0	0	0.0	382	13.6
077	Other diseases of conjunctiva due to viruses and Chlamydiae	M	23	0.3	52	0.3	19	0.2	5	0.1	4	0.1	3	0.2	106	0.2
		F	1	0.2	5	0.3	0	0.0	0	0.0	0	0.0	0	0.0	6	0.2
078	Other diseases due to viruses	M	2670	37.3	2527	13.4	703	9.0	258	5.2	153	4.1	58	3.7	6369	14.5
		F	174	38.5	383	24.9	98	17.0	24	13.4	3	7.5	0	0.0	682	24.4
081	Other typhus	M	3	0.0	6	0.0	1	0.0	0	0.0	1	0.0	0	0.0	11	0.0
		F	0	0.0	0	0.0	0	0.0	1	0.6	0	0.0	0	0.0	1	0.0
082	Tick-borne rickettsioses	M	4	0.1	5	0.0	3	0.0	0	0.0	1	0.0	0	0.0	13	0.0
		F	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0

Table 7 (continued)

ICD9-CM Code	Diagnosis	Sex	Age Group 17–19 N	17–19 Rate	20–24 N	20–24 Rate	25–29 N	25–29 Rate	30–34 N	30–34 Rate	35–39 N	35–39 Rate	40+ N	40+ Rate	Age-adjusted Total N	Age-adjusted Total Rate
083	Other rickettsioses	M	0	0.0	4	0.0	3	0.0	2	0.0	0	0.0	1	0.1	10	0.0
		F	–	–	–	–	–	–	–	–	–	–	–	–	–	–
084	Malaria	M	7	0.1	31	0.2	6	0.1	9	0.2	4	0.1	1	0.1	58	0.1
		F	–	–	–	–	–	–	–	–	–	–	–	–	–	–
090	Congential syphilis	M	1	0.0	4	0.0	1	0.0	0	0.0	2	0.1	1	0.1	9	0.0
		F	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0
091	Early syphilis, symptomatic	M	38	0.5	204	1.1	71	0.9	37	0.8	10	0.3	2	0.1	362	0.8
		F	1	0.2	14	0.9	1	0.2	1	0.6	1	2.5	0	0.0	18	0.6
092	Early syphilis, latent	M	2	0.0	13	0.1	6	0.1	0	0.0	0	0.0	1	0.1	22	0.0
		F	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0
094	Neurosyphilis	M	1	0.0	14	0.1	8	0.1	4	0.1	5	0.1	2	0.1	34	0.1
		F	0	0.0	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0	1	0.0
095	Other forms of late syphilis with symptoms	M	2	0.0	3	0.0	4	0.1	2	0.0	3	0.1	1	0.1	15	0.0
		F	–	–	–	–	–	–	–	–	–	–	–	–	–	–
097	Other & unspecified syphilis	M	18	0.3	67	0.4	51	0.7	13	0.3	12	0.3	7	0.4	168	0.4
		F	1	0.2	6	0.4	1	0.2	0	0.0	0	0.0	0	0.0	8	0.3
098	Gonococcal infections	M	109	1.5	299	1.6	65	0.8	29	0.6	19	0.5	10	0.6	531	1.2
		F	27	6.0	53	3.4	11	1.9	2	1.1	0	0.0	0	0.0	93	3.3
099	Other venereal diseases	M	134	1.9	552	2.9	145	1.9	63	1.3	24	0.6	5	0.3	923	2.1
		F	16	3.5	43	2.3	6	1.0	0	0.0	1	2.5	0	0.0	66	2.4
100	Leptospirosis	M	1	0.0	3	0.0	1	0.0	2	0.0	0	0.0	0	0.0	7	0.0
		F	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0
101	Vincent's angina	M	5	0.1	11	0.1	0	0.0	2	0.0	0	0.0	0	0.0	18	0.0
		F	2	0.4	3	0.2	0	0.0	0	0.0	0	0.0	0	0.0	5	0.2

Table 7 (continued)

ICD9-CM Code	Diagnosis	Sex	Age Group 17-19 N	17-19 Rate	20-24 N	20-24 Rate	25-29 N	25-29 Rate	30-34 N	30-34 Rate	35-39 N	35-39 Rate	40+ N	40+ Rate	Age-adjusted Total N	Age-adjusted Total Rate
110	Dermatophytosis	M	228	3.2	343	1.8	88	1.1	58	1.2	51	1.4	26	1.6	794	1.8
		F	5	1.1	5	0.3	0	0.0	1	0.6	0	0.0	0	0.0	11	0.4
111	Dermatomycosis, other & unspecified	M	33	0.5	86	0.5	30	0.4	12	0.2	11	0.3	1	0.1	173	0.4
		F	2	0.4	3	0.2	2	0.3	1	0.6	0	0.0	0	0.0	8	0.3
112	Candidiasis	M	9	0.1	17	0.1	8	0.1	4	0.1	1	0.0	3	0.2	42	0.1
		F	20	4.4	31	2.0	12	2.1	0	0.0	0	0.0	0	0.0	63	2.3
113	Actinomycosis*	M	2	0.0	4	0.0	2	0.0	1	0.0	4	0.1	0	0.0	13	0.0
		F	0	0.0	0	0.0	1	0.2	0	0.0	0	0.0	0	0.0	1	0.0
114	Coccidioidomycosis	M	3	0.0	26	0.1	16	0.2	7	0.1	12	0.3	5	0.3	69	0.2
		F	0	0.0	1	0.1	0	0.0	0	0.0	1	2.4	0	0.0	2	0.1
115	Histoplasmosis	M	7	0.1	20	0.1	8	0.1	13	0.3	8	0.2	4	0.3	60	0.1
		F	0	0.0	2	0.1	1	0.2	0	.0	0	0.0	0	0.0	3	0.1
116	Blastomycosis	M	2	0.0	2	0.0	7	0.1	1	0.0	0	0.0	0	0.0	12	0.0
		F	-	-	-	-	-	-	-	-	-	-	-	-	-	-
117	Other mycoses	M	7	0.1	8	0.0	3	0.0	4	0.1	6	0.2	3	0.2	31	0.1
		F	-	-	-	-	-	-	-	-	-	-	-	-	-	-
122	Echinococcosis	M	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
		F	2	0.0	5	0.0	0	0.0	3	0.2	0	0.0	0	0.0	10	0.4
123	Other cestode infections	M	0	0.0	7	0.0	1	0.0	1	0.0	2	0.1	1	0.1	12	0.0
		F	-	-	-	-	-	-	-	-	-	-	-	-	-	-
127	Other intestinal helminthiases	M	0	0.0	13	0.1	8	0.1	2	0.0	1	0.0	0	0.0	24	0.1
		F	1	0.2	4	0.3	2	0.3	0	0.0	0	0.0	0	0.0	7	0.3
130	Toxoplasmosis	M	3	0.0	14	0.1	4	0.1	7	0.1	2	0.1	0	0.0	30	0.1
		F	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7 (continued)

ICD9-CM Code	Diagnosis	Sex	Age Group 17-19 N	17-19 Rate	20-24 N	20-24 Rate	25-29 N	25-29 Rate	30-34 N	30-34 Rate	35-39 N	35-39 Rate	40+ N	40+ Rate	Age-adjusted Total N	Age-adjusted Total Rate
131	Trichomoniasis	M	5	0.1	10	0.1	3	0.0	3	0.1	3	0.1	2	0.1	26	0.1
		F	21	4.6	43	2.8	17	3.0	8	4.5	0	0.0	0	0.0	89	3.2
132	Pediculosis & phthirus infestations	M	8	0.1	2	0.0	5	0.1	2	0.0	1	0.0	1	0.1	19	0.0
		F	–	–	–	–	–	–	–	–	–	–	–	–	–	–
133	Acariasis	M	35	0.5	46	0.2	23	0.3	5	0.1	2	0.1	1	0.1	112	0.3
		F	2	0.4	4	0.3	0	0.0	0	0.0	0	0.0	0	0.0	6	0.2
134	Other infestation	M	11	0.2	25	0.1	6	0.1	2	0.0	1	0.0	0	0.0	45	0.1
		F	2	0.4	1	0.1	1	0.2	0	0.0	0	0.0	0	0.0	4	0.1
135	Sarcoidosis	M	19	0.3	142	0.8	94	1.2	38	0.8	28	0.7	15	0.9	336	0.8
		F	0	0.0	11	0.7	6	1.0	3	1.7	0	0.0	0	0.0	20	0.7
136	Other & unspecified infect. & parasitic diseases	M	47	0.7	118	0.6	34	0.4	37	0.8	23	0.6	6	0.4	265	0.6
		F	0	0.0	2	0.1	1	0.2	2	1.1	0	0.0	0	0.0	5	0.2
TOTAL		M	12115	169.1	14083	74.8	3799	48.7	1585	32.2	954	25.3	428	27.1	32964	75.2
		F	934	206.6	1770	115.0	450	78.2	94	52.4	14	35.1	4	31.5	3266	107.1

* ICD-8 code

a. Includes only diagnoses with six or more cases.

Table 8. Age-Adjusted First Hospitalization Rates (per 100,000 person years) by Diagnosis[a] and Occupation, U.S. Navy Enlisted Personnel, 1975-1984

ICD9-CM Code	Diagnosis	Apprentice/ Recruit N	Apprentice/ Recruit Rate	Blue Collar N	Blue Collar Rate	Administrative/ Clerical N	Administrative/ Clerical Rate	Electronic/ Technical N	Electronic/ Technical Rate	Medical N	Medical Rate
002	Typhoid & paratyphoid fevers	6	0.4 (0.1-0.7)	26	1.8 (1.1-2.5)	13	1.5 (0.7-2.3)	14	2.0 (1.0-3.1)	10	4.1 (1.6-6.6)
003	Other salmonella infections	21	1.8 (1.0-2.5)	27	1.9 (1.2-2.7)	14	1.9 (0.9-2.9)	23	3.2 (1.9-4.4)	16	6.0 (3.0-8.8)
004	Shigellosis	11	0.7 (0.3-1.1)	46	3.0 (2.2-3.9)	26	4.1 (2.5-5.7)	21	2.7 (1.6-3.9)	26	11.1 (6.9-15.4)
005	Other food poisoning (bacterial)	60	5.2 (3.9-6.5)	27	2.0 (1.2-2.7)	17	2.2 (1.2-3.2)	13	1.7 (0.8-2.7)	20	8.3 (4.7-11.9)
006	Amebiasis	14	1.2 (0.6-1.9)	37	2.4 (1.6-3.2)	9	1.0 (0.4-1.6)	17	2.1 (1.1-3.1)	12	4.8 (2.1-7.5)
007	Other protozoal intestinal diseases	19	7.3 (4.0-10.6)	34	2.4 (1.6-3.2)	16	2.0 (1.0-3.0)	13	1.6 (0.7-2.5)	10	3.4 (1.3-5.5)
008	Intestinal infections due to other organisms	325	27.6 (24.6-30.7)	359	26.0 (23.3-28.7)	119	19.4 (15.9-22.8)	172	23.0 (19.6-26.4)	311	126.9 (112.8-141.0)
009	Ill-defined intestinal infections	1429	118.2 (112.1-124.3)	1038	75.2 (70.6-79.8)	420	69.8 (63.2-76.5)	525	73.3 (67.1-79.6)	660	271.3 (250.6-292.0)
011	Pulmonary tuberculosis	61	24.7 (18.5-30.9)	121	7.8 (6.43-9.2)	105	11.8 (9.5-14.0)	50	5.8 (4.2-7.4)	26	10.1 (6.2-14.0)
012	Other respiratory tuberculosis	38	4.3 (3.0-5.7)	87	5.8 (4.6-7.1)	25	3.3 (2.0-4.6)	32	4.3 (2.8-5.8)	10	3.8 (1.4-6.1)
014	Tuberculosis of intestines peritoneum & mesenteric glands	0	0.0 (0.0-0.0)	1	0.1 (0.0-0.2)	4	0.3 (0.0-0.7)	0	0.0 (0.0-0.0)	1	0.4 (0.0-1.1)

Table 8 (continued)

ICD9-CM Code	Diagnosis	Apprentice/ Recruit N	Apprentice/ Recruit Rate	Blue Collar N	Blue Collar Rate	Administrative/ Clerical N	Administrative/ Clerical Rate	Electronic/ Technical N	Electronic/ Technical Rate	Medical N	Medical Rate
015	Tuberculosis of bones and joints	3	0.2 (0.0-0.4)	5	0.3 (0.0-0.6)	2	0.3 (0.1-0.6)	1	0.1 (0.0-0.4)	1	0.3 (0.0-0.9)
016	Tuberculosis of genitourinary system	0	0.0 (0.0-0.0)	8	0.5 (0.2-0.8)	7	0.7 (0.2-1.2)	5	0.7 (0.1-1.2)	1	0.7 (0.0-2.0)
017	Tuberculosis of other organs	5	0.7 (0.1-1.3)	3	0.2 (0.0-0.4)	19	1.9 (1.1-2.8)	2	0.4 (0.0-0.9)	0	0.0 (0.0-0.0)
018	Military tuberculosis	1	0.1 (0.0-0.3)	4	0.3 (0.0-0.5)	2	0.3 (0.0-0.7)	0	0.0 (0.0-0.0)	0	0.0 (0.0-0.0)
137	Late effects of tuberculosis	2	0.6 (0.0-1.4)	3	0.2 (0.0-0.4)	7	0.6 (0.2-1.1)	2	0.2 (0.0-0.6)	0	0.0 (0.0-0.0)
023	Brucellosis	1	0.1 (0.0-0.3)	0	0.0 (0.0-0.0)	2	0.3 (0.0-0.7)	1	0.1 (0.0-0.4)	1	0.3 (0.0-0.9)
030	Leprosy	4	0.6 (0.0-1.2)	3	0.2 (0.0-0.4)	5	0.6 (0.1-1.1)	0	0.0 (0.0-0.0)	1	0.3 (0.0-0.9)
031	Other diseases due to mycobacteria	4	0.3 (0.0-0.6)	2	0.1 (0.0-0.3)	3	0.2 (0.0-0.5)	2	0.2 (0.0-0.6)	1	0.7 (0.0-2.0)
034	Streptococcal sore throat & scarlet fever	384	28.2 (25.4-31.0)	208	16.3 (14.1-18.5)	82	13.9 (10.9-16.9)	94	14.6 (11.7-17.6)	143	60.9 (50.9-70.8)
035	Erysipelas	12	0.7 (0.3-1.1)	12	0.8 (0.4-1.3)	9	1.0 (0.4-1.7)	6	0.9 (0.2-1.6)	4	1.4 (0.0-2.7)
036	Meningococcal infection	44	2.8 (2.0-3.6)	13	1.1 (0.5-1.7)	4	0.7 (0.0-1.4)	7	0.9 (0.2-1.6)	2	1.3 (0.0-3.2)

Table 8 (continued)

ICD9-CM Code	Diagnosis	Apprentice/ Recruit N	Apprentice/ Recruit Rate	Blue Collar N	Blue Collar Rate	Administrative/ Clerical N	Administrative/ Clerical Rate	Electronic/ Technical N	Electronic/ Technical Rate	Medical N	Medical Rate
038	Septicemia	54	5.0 (3.6-6.3)	69	4.5 (3.5-5.6)	27	4.2 (2.6-5.8)	32	4.5 (2.9-6.0)	19	6.9 (3.8-9.9)
040	Other bacterial diseases	63	6.6 (5.0-8.2)	66	4.6 (3.5-5.7)	33	4.9 (3.2-6.5)	15	1.9 (1.0-2.9)	25	9.9 (6.0-13.8)
045	Acute poliomyelitis	1	0.9 (0.0-2.8)	2	0.1 (0.0-0.3)	2	0.2 (0.1-0.4)	1	0.1 (0.0-0.3)	1	0.3 (0.0-0.9)
047	Meningitis due to enterovirus	56	4.9 (3.6-6.2)	124	8.7 (7.2-10.3)	50	7.9 (5.7-10.1)	68	8.6 (6.5-10.6)	79	29.0 (22.6-35.4)
048	Other enterovirus diseases of CNS	0	0.0 (0.0-0.0)	2	0.1 (0.0-0.3)	2	0.2 (0.0-0.5)	0	0.0 (0.0-0.0)	1	0.3 (0.0-1.0)
052	Chickenpox	836	64.4 (60.1-68.8)	313	23.8 (21.2-26.5)	157	26.5 (22.3-30.6)	116	17.8 (14.6-21.1)	269	119.1 (104.8-133.3)
053	Herpes zoster	32	3.2 (2.1-4.3)	47	3.4 (2.4-4.4)	30	5.1 (3.3-6.9)	23	3.3 (2.0-4.7)	15	5.8 (2.9-8.7)
054	Herpes simplex	156	15.6 (13.2-18.1)	119	8.7 (7.2-10.3)	60	10.5 (7.9-13.2)	68	9.8 (7.5-12.1)	80	31.9 (24.9-38.8)
055	Measles	1495	74.9 (71.1-78.7)	73	6.1 (4.7-7.4)	13	3.1 (1.4-4.8)	64	13.1 (9.9-16.3)	51	23.4 (17.0-29.8)
056	Rubella	2815	154.8 (149.1-160.5)	29	2.3 (1.5-3.2)	9	2.2 (0.8-3.6)	16	3.2 (1.6-4.7)	30	15.6 (10.0-21.2)
057	Other viral exanthemata	737	42.9 (39.8-46.0)	55	4.7 (3.5-6.0)	14	3.2 (1.5-4.8)	43	7.5 (5.3-9.8)	46	23.5 (16.7-30.3)

Table 8 (continued)

ICD9-CM Code	Diagnosis	Apprentice/ Recruit N	Apprentice/ Recruit Rate	Blue Collar N	Blue Collar Rate	Administrative/ Clerical N	Administrative/ Clerical Rate	Electronic/ Technical N	Electronic/ Technical Rate	Medical N	Medical Rate
061	Dengue	0	0.0 (0.0-0.0)	4	0.3 (0.0-0.5)	0	0.0 (0.0-0.0)	2	0.4 (0.0-0.9)	1	0.4 (0.0-1.1)
065	Viral encephalitis*	18	1.6 (0.9-2.3)	17	1.1 (0.6-1.6)	3	0.5 (0.0-1.0)	5	0.6 (0.1-1.1)	5	2.1 (0.3-3.9)
070	Viral hepatitis	1094	118.6 (111.6-125.7)	1351	96.1 (91.0-101.3)	517	86.4 (79.0-93.9)	666	93.1 (86.0-100.1)	546	209.0 (191.5-226.6)
071	Rabies	4	1.2 (0.0-2.4)	3	0.2 (0.0-0.4)	2	0.4 (0.0-0.9)	5	0.6 (0.1-1.2)	0	0.0 (0.0-0.0)
072	Mumps	45	3.4 (2.4-4.4)	48	3.7 (2.7-4.8)	22	2.8 (1.6-4.0)	12	1.6 (0.7-2.5)	29	11.8 (7.5-16.1)
074	Specific diseases due to Coxsackie virus	4	0.3 (0.0-0.5)	9	0.7 (0.2-1.1)	5	0.7 (0.1-1.3)	3	0.4 (0.0-0.9)	2	0.7 (0.0-1.6)
075	Infectious mononucleosis	1126	74.4 (70.0-78.7)	943	77.1 (72.2-82.0)	279	57.3 (50.5-64.0)	588	97.9 (90.0-105.8)	526	237.0 (216.7-257.2)
077	Other diseases of conjunctiva due to viruses & Chlamydiae	26	3.1 (1.9-4.3)	33	2.4 (1.6-3.2)	17	3.3 (1.8-4.9)	16	2.5 (1.3-3.8)	20	7.9 (4.4-11.3)
078	Other diseases due to viruses	3667	273.4 (264.5-282.2)	1237	87.7 (82.9-92.6)	533	88.3 (80.8-95.8)	604	86.7 (79.8-93.6)	969	395.6 (370.7-420.5)
081	Other typhus	0	0.0 (0.0-0.0)	7	0.6 (0.2-1.0)	2	0.4 (0.0-1.0)	0	0.0 (0.0-0.0)	3	1.1 (0.0-2.3)
082	Tick-Borne rickettsioses	4	0.2 (0.0-0.3)	1	0.1 (0.0-0.2)	2	0.2 (0.0-0.5)	5	0.6 (0.1-1.2)	2	0.7 (0.0-1.7)

Table 8 (continued)

ICD9-CM Code	Diagnosis	Apprentice/ Recruit N	Apprentice/ Recruit Rate	Blue Collar N	Blue Collar Rate	Administrative/ Clerical N	Administrative/ Clerical Rate	Electronic/ Technical N	Electronic/ Technical Rate	Medical N	Medical Rate
083	Other rickettsioses	1	0.1 (0.0–0.3)	3	0.2 (0.0–0.4)	0	0.0 (0.0–0.9)	3	0.4 (0.0–0.9)	3	1.1 (0.0–2.2)
084	Malaria	14	1.3 (0.6–2.0)	17	1.1 (0.6–1.7)	8	1.0 (0.3–1.7)	10	1.3 (0.5–2.2)	8	3.1 (0.9–5.2)
090	Congential syphilis	5	0.4 (0.1–0.8)	1	0.1 (0.0–0.2)	3	0.3 (0.0–0.6)	1	0.1 (0.0–0.4)	0	0.0 (0.0–0.0)
091	Early syphilis, symptomatic	32	9.6 (7.6–11.7)	110	7.5 (6.1–8.9)	83	13.3 (10.4–16.2)	64	8.7 (6.6–10.8)	40	14.6 (10.1–19.2)
092	Early syphilis, latent	6	0.7 (0.1–1.3)	8	0.5 (0.2–0.9)	5	0.8 (0.1–1.5)	4	0.7 (0.0–1.3)(	0	0.0 0.0–0.0)
094	N urosyphilis	2	0.2 (0.0–0.5)	16	1.1 (0.6–1.6)	8	1.0 (0.3–1.7)	6	0.8 (0.2–1.4)	3	1.1 (0.0–2.3)
097	Other and unspecified syphilis	34	3.7 (2.5–5.0)	44	2.9 (2.0–3.8)	48	6.5 (4.7–8.3)	28	3.8 (2.4–5.2)	20	8.0 (4.5–11.5)
095	Other forms of late syphilis with symptoms	6	1.5 (0.3–2.7)	5	0.3 (0.0–0.6)	3	0.3 (0.0–0.6)	1	0.1 (0.0–0.3)	0	0.0 (0.0–0.0)
098	Gonococcal infections	208	26.1 (22.6–29.7)	180	13.2 (11.3–15.2)	109	18.4 (15.0–21.9)	88	13.2 (10.4–15.9)	35	13.6 (9.1–18.1)
099	Other venereal diseases	250	27.7 (24.3–31.2)	324	22.8 (20.4–25.3)	163	27.0 (22.9–31.2)	161	21.2 (17.9–24.5)	89	35.9 (28.4–43.3)
100	Leptospirosis	1	0.1 (0.0–0.3)	4	0.3 (0.0–0.6)	0	0.0 (0.0–0.0)	2	0.2 (0.0–0.6)	1	0.4 (0.0–1.1)

Table 8 (continued)

ICD9-CM Code	Diagnosis	Apprentice/ Recruit N	Apprentice/ Recruit Rate	Blue Collar N	Blue Collar Rate	Administrative/ Clerical N	Administrative/ Clerical Rate	Electronic/ Technical N	Electronic/ Technical Rate	Medical N	Medical Rate
101	Vincent's angina	8	0.6 (0.2-1.1)	8	0.6 (0.2-1.1)	1	0.2 (0.0-0.5)	3	0.7 (0.0-1.4)	3	1.4 (0.0-3.0)
110	Dermatophytosis	342	30.2 (27.0-33.4)	327	16.2 (14.5-18.0)	87	14.3 (11.3-17.3)	96	13.4 (10.8-16.1)	87	15.7 (12.4-19.0)
111	Dermatomycosis, other & unspecified	74	7.5 (5.8-9.3)	52	3.5 (2.6-4.5)	15	2.1 (1.1-3.2)	22	3.0 (1.7-4.2)	17	7.4 (3.9-10.9)
112	Candidiasis	31	2.5 (1.6-3.3)	18	1.4 (0.7-2.0)	13	2.0 (0.9-3.0)	18	2.8 (1.5-4.1)	25	10.6 (6.4-14.8)
113	Actinomycosis*	4	0.5 (0.0-1.1)	5	0.3 (0.0-0.6)	2	0.2 (0.0-0.4)	2	0.4 (0.0-1.0)	1	0.3 (0.0-1.0)
114	Coccidioidomycosis	8	0.9 (0.3-1.5)	38	2.4 (1.7-3.2)	12	1.3 (0.6-2.0)	7	1.1 (0.3-1.9)	4	1.4 (0.0-2.7)
115	Histoplasmosis	9	0.6 (0.2-1.0)	23	1.4 (0.9-2.0)	12	2.2 (0.9-3.4)	10	1.1 (0.4-1.8)	8	2.7 (0.8-4.6)
116	Blastomycosis	2	0.1 (0.0-0.3)	1	0.2 (0.0-0.5)	5	0.6 (0.1-1.2)	2	0.3 (0.0-0.6)	2	1.0 (0.0-2.3)
117	Other mycoses	8	0.5 (0.5-0.8)	10	0.7 (0.3-1.1)	4	0.4 (0.0-0.7)	5	0.7 (0.1-1.4)	2	0.7 (0.0-1.7)
122	Echinococcosis	1	0.1 (0.0-0.3)	0	0.0 (0.0-0.0)	1	0.1 (0.0-0.3)	1	0.1 (0.0-0.2)	6	2.5 (0.5-4.4)
123	Other cestode infections	2	0.2 (0.0-0.5)	3	0.2 (0.0-0.4)	3	0.3 (0.0-0.6)	2	0.3 (0.0-0.6)	2	0.7 (0.0-1.7)

Table 8 (continued)

ICD9-CM Code	Diagnosis	Apprentice/ Recruit N	Apprentice/ Recruit Rate	Blue Collar N	Blue Collar Rate	Administrative/ Clerical N	Administrative/ Clerical Rate	Electronic/ Technical N	Electronic/ Technical Rate	Medical N	Medical Rate
127	Other intestinal helminthiases	4	0.6 (0.0-1.2)	9	0.6 (0.2-1.0)	7	1.3 (0.3-2.3)	3	0.4 (0.0-0.8)	8	2.7 (0.8-4.6)
130	Toxoplasmosis	8	0.8 (0.2-1.3)	13	0.8 (0.4-1.3)	3	0.5 (0.0-1.0)	5	0.6 (0.1-1.1)	1	0.3 (0.0-1.0)
131	Trichomoniasis	44	5.6 (3.9-7.2)	14	0.9 (0.4-1.4)	20	3.5 (2.0-5.0)	16	2.1 (1.1-3.1)	21	9.1 (5.2-13.1)
132	Pediculosis & phthirus infestation	9	0.4 (0.2-0.7)	6	0.4 (0.1-0.8)	0	0.0 (0.0-0.0)	2	0.2 (0.0-0.5)	1	0.3 (0.0-0.9)
133	Acariasis	43	3.1 (2.2-4.0)	34	2.4 (1.6-3.2)	14	2.6 (1.2-4.0)	20	3.1 (1.7-4.5)	7	2.7 (0.7-4.7)
134	Other infestation	23	1.9 (1.1-2.6)	11	0.8 (0.3-1.3)	6	1.1 (0.2-2.0)	7	1.0 (0.3-1.7)	2	0.7 (0.0-1.7)
135	Sarcoidosis	63	8.2 (6.2-10.3)	127	8.1 (6.7-9.5)	69	9.5 (7.3-11.8)	53	6.3 (4.6-8.0)	40	14.2 (9.8-18.5)
136	Other & unspecified infectious & parasitic diseases	52	5.1 (3.7-6.5)	110	7.8 (6.4-9.3)	32	4.9 (3.2-6.6)	56	7.8 (5.8-9.9)	17	6.2 (3.2-9.1)
TOTAL		16035	1217.6	8074	586.7	3435	562.1	4060	558.2	4389	1808.8

*shows ICD-8 code, no ICD-9 code given
a. Includes only diagnoses with six or more cases

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First hospital admissions for all ICD9-CM diagnoses of infectious and parasitic diseases in U.S. Navy enlisted personnel occurring during 1 January 1975 to 31 December 1984 were examined to identify trends in rates of specific diagnoses that would serve as a baseline for the projection of future hospital admissions for these conditions. The age-adjusted rate of total first hospital admissions for all infectious and parasitic diseases declined significantly from a high of 112.9 per 10,000 person years in 1977 to a low of 50.3 per 10,000 person years in 1982. Approximately 78 per cent of all first hospital admissions were accounted for by 10 specific diagnoses. Eight diagnoses exhibited significantly higher rates in 1980-1984 than in the previous five-year period. The rate of total first admissions for infectious and parasitic diseases was inversely associated with age. Personnel between the ages of 17 and 19 were particularly susceptible to diseases normally associated with childhood, including measles, mumps, and chickenpox. Women had significantly higher age-adjusted rates of total first hospitalizations for infectious (Continued on reverse side)

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diseases than men and medical personnel and recruit personnel had significantly higher rates than other occupational groups. Changes in rates of hospitalization appear to be due to a number of factors, including improved medical care and prophylaxis, changes in treatment policy with a greater emphasis on outpatient care, changes in social and demographic characteristics of the Navy as a whole, and changes in ship deployment.